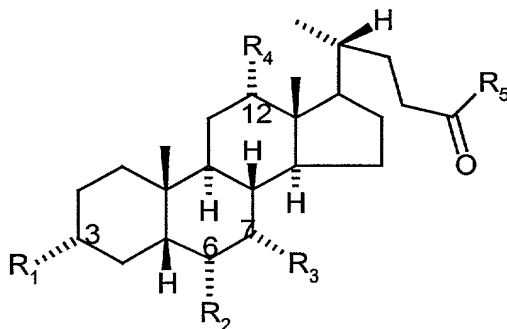


**Claims**

1. A double metal cyanide (DMC) catalyst comprising
  - a) one or more double metal cyanide compounds,
  - b) one or more bile acids or their salts, esters or amides, and
  - c) one or more organic complex ligands which differ from b).
2. A DMC catalyst according to claim 1, also comprising d) water and/or e) a water-soluble metal salt.
3. A DMC catalyst according to claim 1 or 2, in which the double metal cyanide compound a) is zinc hexacyanocobaltate(III).
4. A DMC catalyst according to any one of claims 1 to 3, in which the organic complex ligand c) is tert-butanol.
5. A DMC catalyst according to any one of claims 1 to 4, comprising 1 to 80 wt.% of a bile acid or its salt, ester or amide.
6. A DMC catalyst according to any one of claims 1 to 5, in which the bile acid has the general formula



wherein

$R_1, R_2, R_3, R_4$ , independently, represent H or OH and

5  $R_5$  represents OH,  $NH-CH_2-CH_2-SO_3H$ ,  $NH-(CH_2)_3-N^+(CH_3)_2-(CH_2)_3-SO_3$ ,  
 $NH-(CH_2)_3-N^+(CH_3)_2-CH_2-CHOH-CH_2-SO_3^-$  or  $NH-CH_2-$   
 COOH.

7. A DMC catalyst according to any one of claims 1 to 6, in which the catalyst  
 10 comprises, as a bile acid salt, the sodium, lithium or potassium salts of cholic  
 acid, glycocholic acid, taurocholic acid, deoxycholic acid, glycodeoxycholic  
 acid, taurodeoxycholic acid, chenodeoxycholic acid, glycochenodeoxycholic  
 acid, taurochenodeoxycholic acid, lithocholic acid, hyocholic acid,  
 hyodeoxycholic acid or mixtures thereof.

15 8. A process for preparing a DMC catalyst according to any one of claims 1 to  
 7, comprising the steps:

20 i) Reaction in aqueous solution of  
 $\alpha)$  metal salts with metal cyanide salts  
 $\beta)$  organic complex ligands, which differ from bile acids or their  
 salts, esters or amides, and  
 $\gamma)$  bile acids or their salts, esters or amides,

25 ii) isolation, washing and drying of the catalyst obtained in step i).

9. A process for preparing polyetherpolyols by the polyaddition of alkylene ox-  
 30 ides to starter compounds which contain active hydrogen atoms in the pres-  
 ence of one or more DMC catalysts according to any one of claims 1 to 7.

10. A polyetherpolyol obtainable by the process in accordance with claim 9.

11. The use of one or more DMC catalysts according to any one of claims 1 to 7, to prepare polyetherpolyols by the polyaddition of alkylene oxides to starter compounds which contain active hydrogen atoms.